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Tab. 1.

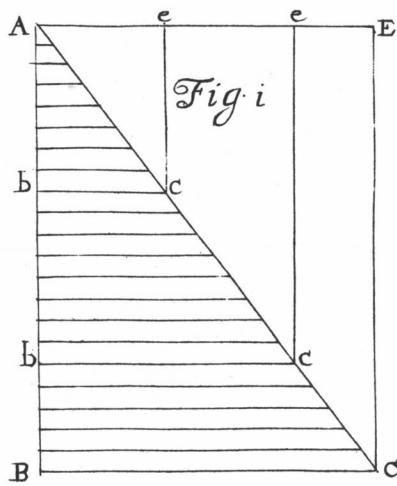


Fig. 1.

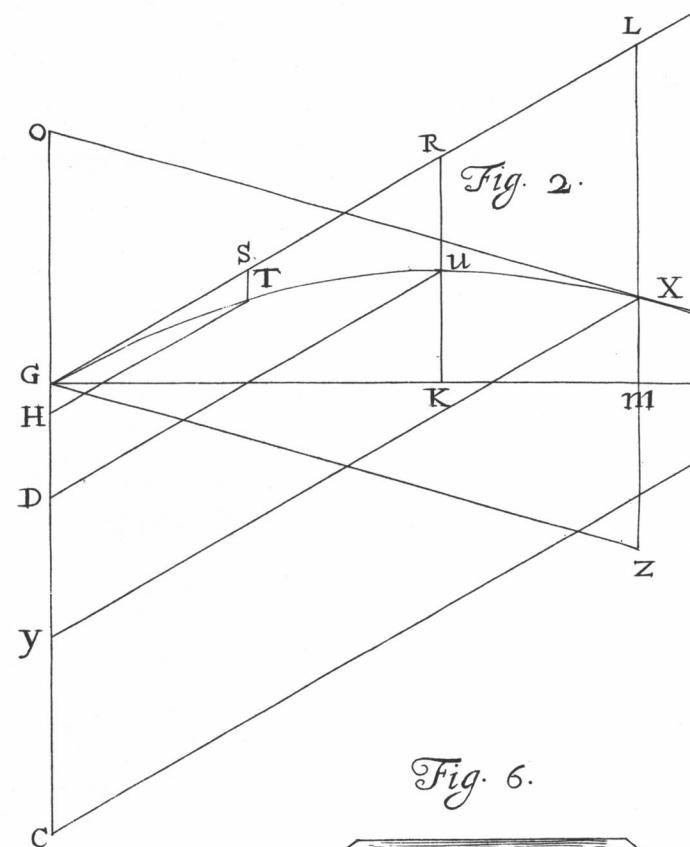


Fig. 2.

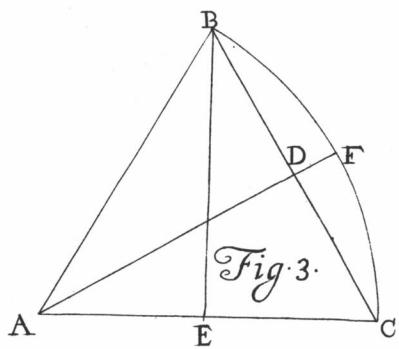


Fig. 3.

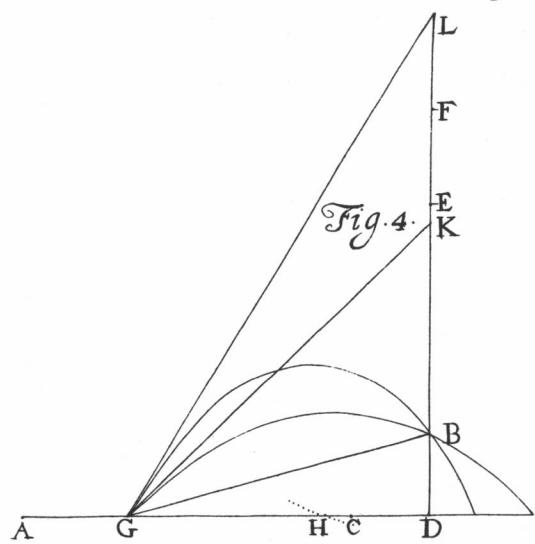


Fig. 4.

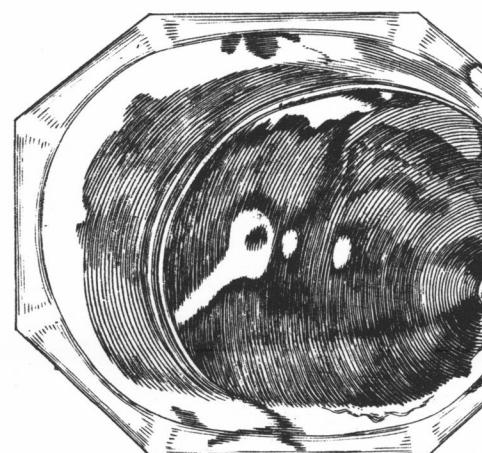


Fig. 5.



C

Tab 1.

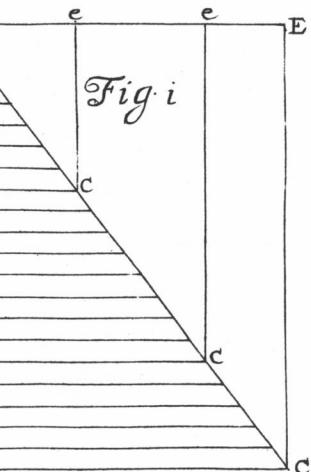


Fig. 1.

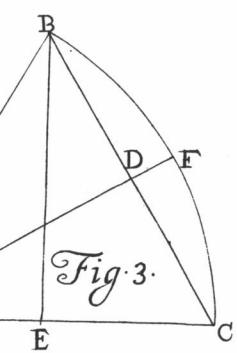


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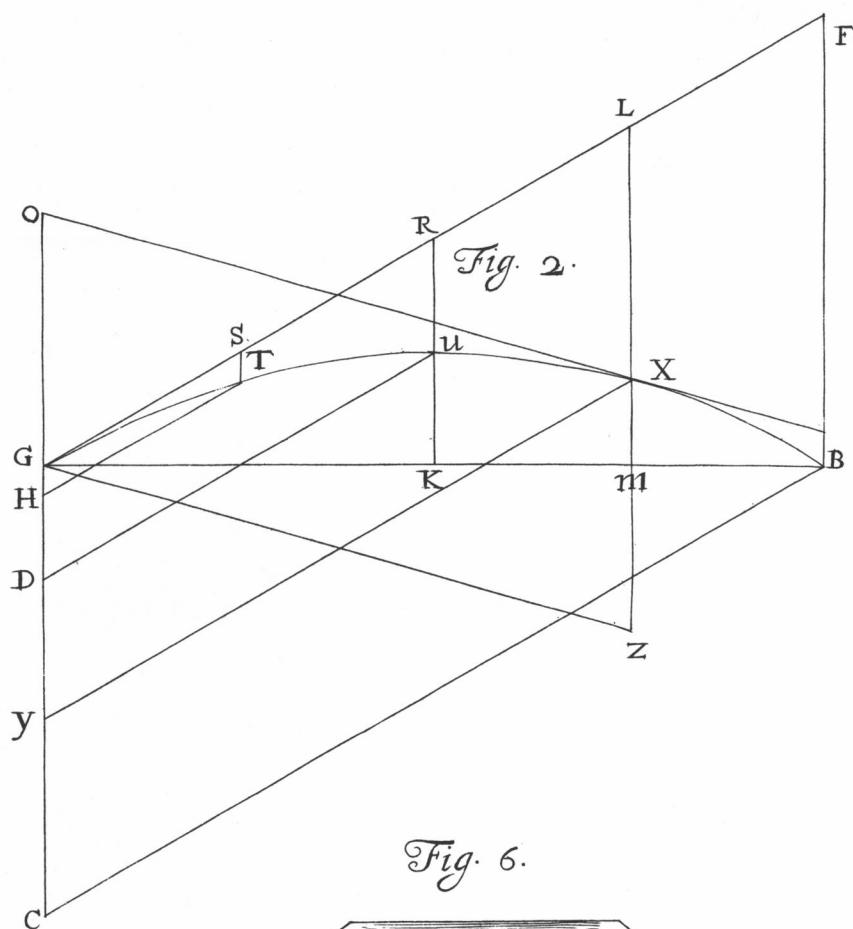


Fig. 2.

Fig. 6.

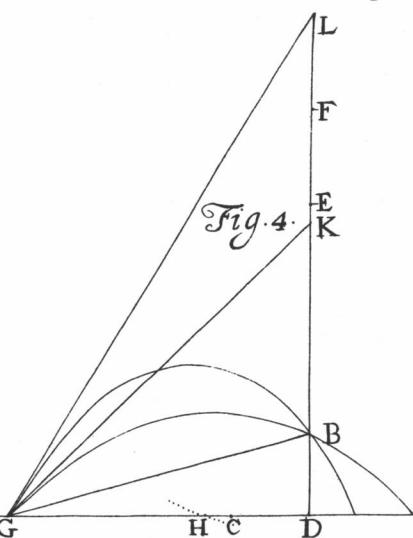
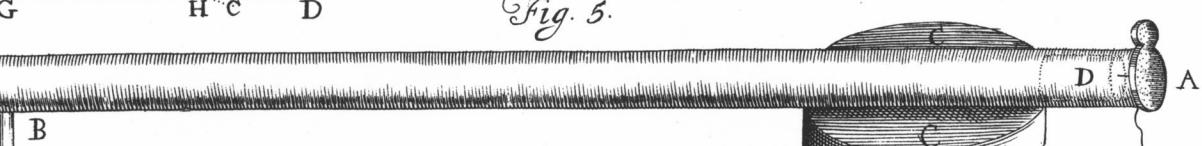
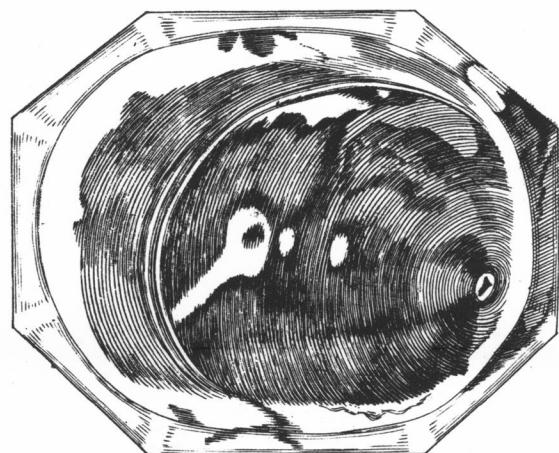


Fig. 4.

Fig. 5.



B

A

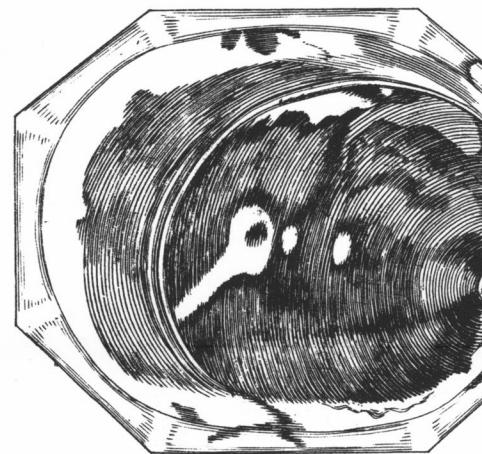
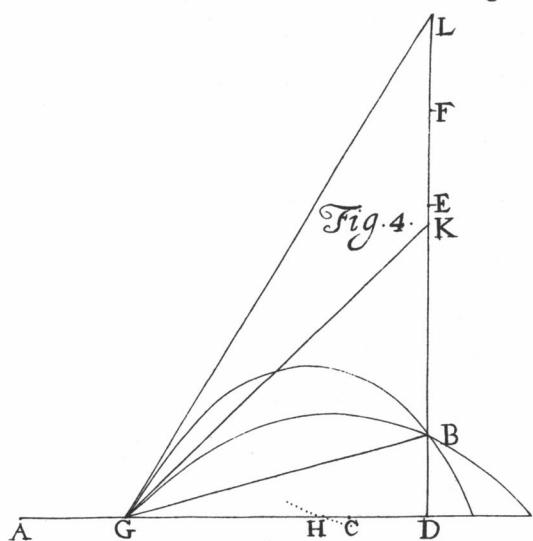
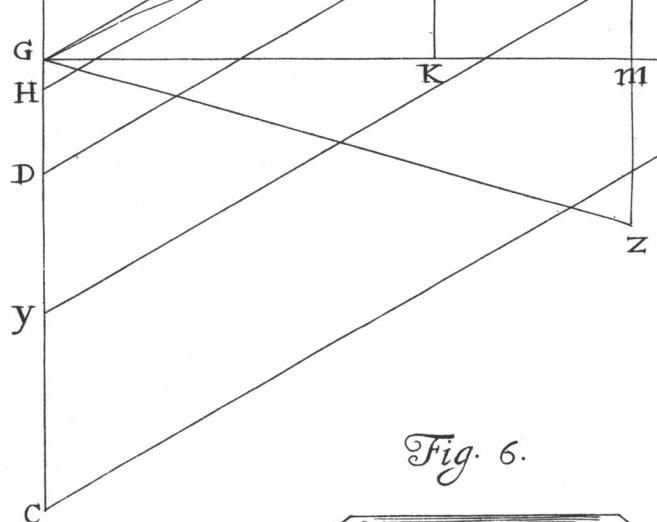
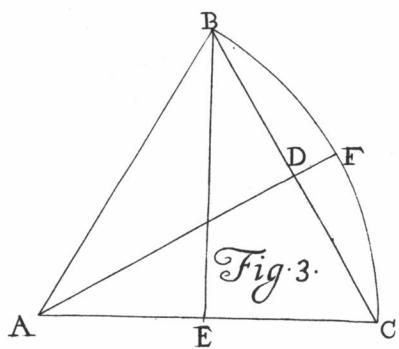
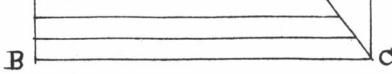
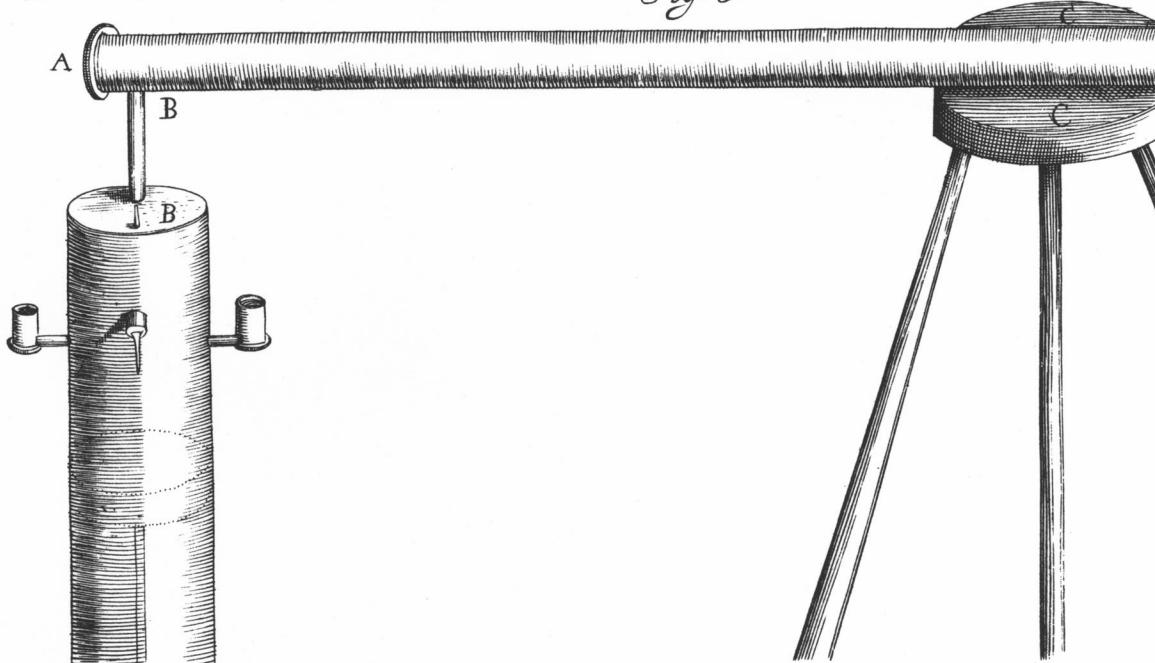


Fig. 5.



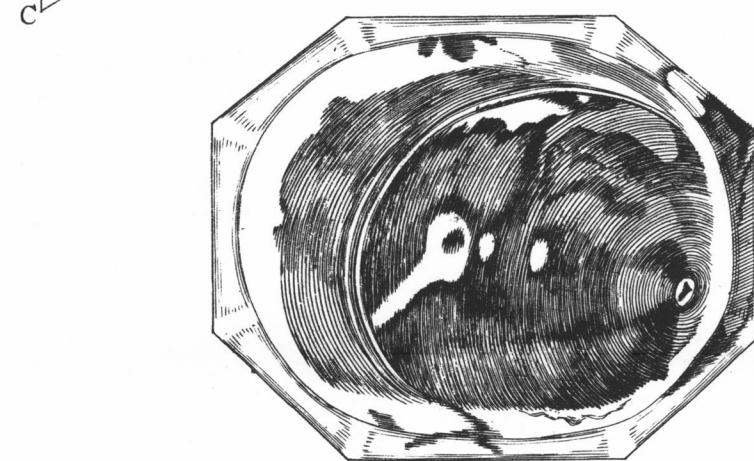
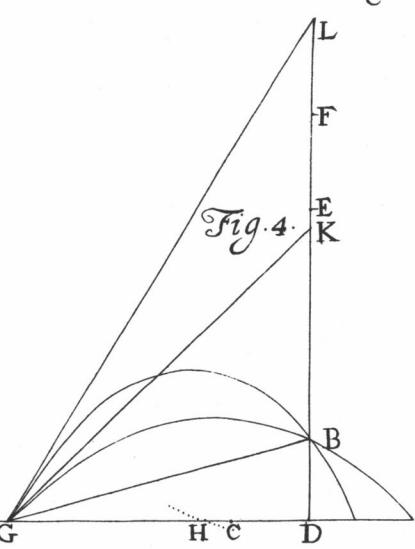
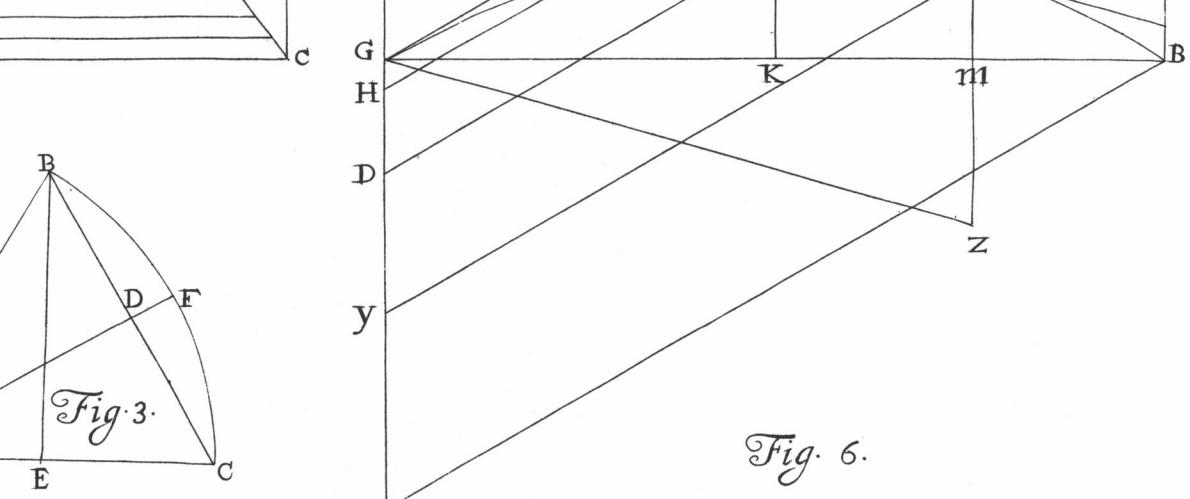
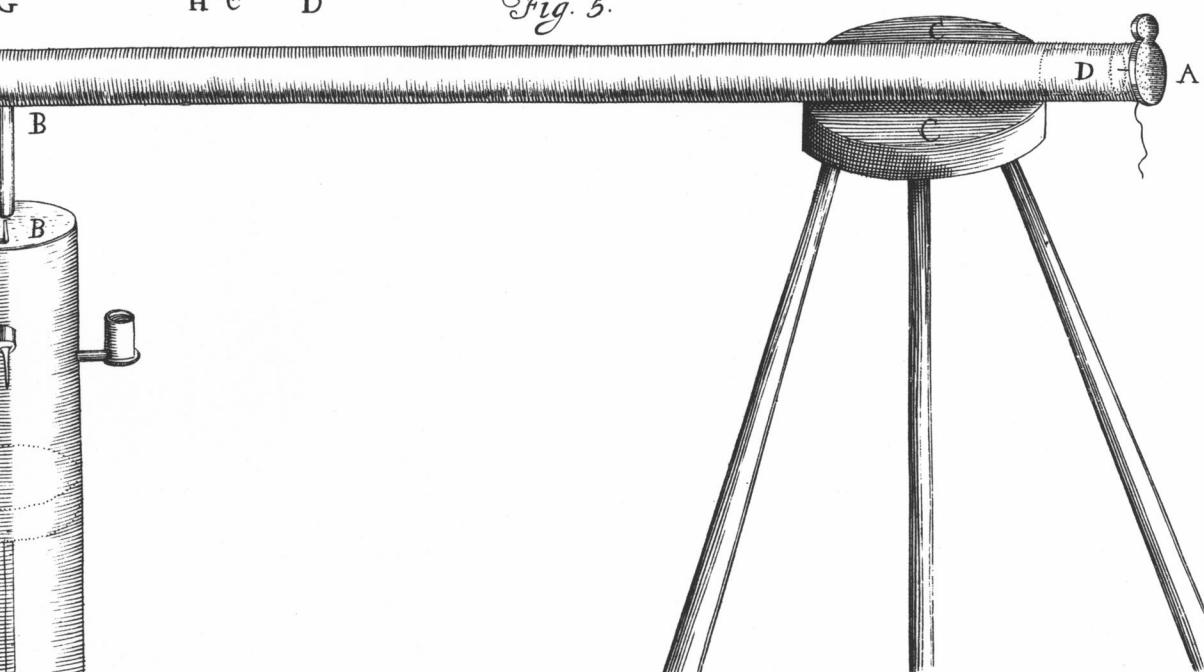


Fig. 5.



be put in Practice to all Intents and Purposes, as if this Impediment were absolutely Removed.

An Account of an Experiment shewn before the Royal Society, of Shooting by the Rarefaction of the Air : By Dr. D. Papin, R. S. S.

WHereas ordinary Wind-Guns do their Effect by the Compression of the Air. *Otto Ghericke* hath found a new Sort that shoots by Rarefaction ; and he hath Publisht that device at large in his Book about *Pneumatick Experiments*, but he doth not expres how strong was the Effect. I have therefore had the Curiosity to try it my self by another Contrivance, which I take to be better than his : First, because I can make a Rarefaction much more perfect than he could do. Secondly, because his Device could not be used but for Guns of a small bore ; but my way may be apply'd to the biggest bore that can be made by Workmen : So that one might by this means throw up vast Weights to a great distance.

A A is a Pipe very equal from one end to the other.

B B a small Pipe foder'd to a Hole near the end of the Pipe A A, and apply'd to the Plate of the *Pneumatick Engine*.

C C C some kind of Stool to bear up the hinder part of the Pipe A A.

D. a peice of Lead fitted to the bore of the pipe A A.

The pipe A A is to be shut at both ends by *Valves* outwardly apply'd, and so the said pipe A A, though never so big, may be exhausted of Air by means of the *Pneumatick Engine* : Which done, the *Valve* towards D must be suddenly open'd, so that the whole pressure of the *Atmosphere* acting upon the Lead D may drive it along the pipe A A with such

such a swiftness, that it will be able to carry it to a great distance : And because such a *Valve* shutting a great hole would prove very difficult to be opened, when the pipe A A is of a great Bore, the aperture towards D may be left much smaller than the pipe ; the swiftness of the Air being so great, that even through a pretty small aperture, it presses the lead D as freely almost as if the whole Bore was quite open.

Having prepared a Barrel carrying a lead of 2 ounces, the Experiment was shewn before the *Royal Society*, and the Effect was found very considerable, the force being little less than that of the *Wind-Gun* by compression ; the same experiment being afterwards repeated with a longer Barrel, 'twas found that the length in this way of shooting was very little, if any advantage.

*Part of a LETTER from Dr. Salomon Reisel,
Chief Physician to the Duke of Wirtemburg, about an
extraordinary Tincture given to a Stone : Stutgardia,
Febr. 120. 1686.*

A Urifaber Stutgardianus, qui & gemmis & Metallicis typis nummorum cudendorum insculpendis artificiosus est, nomine *Christophorus Muller*, Anno 1685, aurum *aqua regis* solutum, oleo *Tartari* præcipitatum atque edulcoratum, quod aurum fulminans dicunt, dum in scutella, quam *Maturellam* vocant, ex Japide Chalcedonio coloris unici pellucidi onychini seu *Cornei*, vitro pro fusione præparato rubro mixtum, & aqua fontana imbutum tereret, ad facienda Encausta seu smalta ; de quibus *Anton. Nerius* vertente *Andrea Friso*, egit lib. 6. *Artis Vitrariae* ; invenit iterato tertium eodem labore : quod color pulveris istius puniceus, qui per dies aliquot siccatus in vasculo manserat, quoisque inter terrendum